## Remarks

By way of the present amendment, claims 1-5 have been cancelled and new claims 6-32 have been added. As such, claims 6-32 are pending after entry of the amendment. Support for new claims 6-32 can be found throughout the specification as filed, specifically at page 2, line 19, to page 4. line 12, and in the Examples. No new matter enters by way of the present amendment, and as such, entry of the amendment is respectfully requested.

## I. Rejection Under 35 U.S.C. § 112, First Paragraph, Enablement

Claims 1-4 stand rejected under 35 U.S.C. 112, first paragraph because the specification allegedly fails to enable a person skilled in the art to make and/or use the invention commensurate in scope with the claims. This rejection is respectfully traversed for at least the following reasons.

Among other things, the Examiner acknowledges that the specification provides enablement for a bone-pathobolism treating agent comprising osteoclastogenesis inhibitory factor (OCIF), or its variant (OCIF2, OCIF3, OCIF4, or OCIF5) and a polysaccharide such as heparin, dextran sulfate, pectin or carrageenan. However, the Examiner alleges that the specification "does not reasonably provide enablement for a bone-pathobolism treating agent comprising at least one substance selected from an undefined homolog or variant of OCIF, or a polysaccharide," and repeatedly asserts that the specification does not show "the use of any homolog or variant of OCIF, or a polysaccharide alone as a bone-pathobolism treating agent" *Office Action mailed February 7, 2003, Paper No. 8*, page 2, 4 and 5.

Further, in support of this rejection, the Examiner asserts:

> In summary, the scope of the claim is broad, the working example does not demonstrate the claimed variants, the art is unpredictable regarding the effects of claimed compounds, and the guidance and the teaching in the specification are limited, therefor it is necessary to have additional guidance and to carry out further experimentation to assess the effects of the compounds.

*Id.* at page 5.

Applicants traverse these general characterizations in that they fail to acknowledge the full scope of the teachings set forth in the present specification. Initially, it is noted that the newly added

claims clarify that the compositions of the invention comprise both an OCIF protein and a polysaccharide. As such, the Examiner's allegation that the specification does not demonstrate the use of a homolog or variant of OCIF, or a polysaccharide alone as a bone-pathobolism treating agent is misplaced. Further, as acknowledged by the Examiner, the specification discloses a treating agent comprising osteoclastogenesis inhibitory factor (OCIF), or its variant (OCIF2, OCIF3, OCIF4, or OCIF5) and a polysaccharide such as heparin, dextran sulfate, pectin or carrageenan. Moreover, the specification discloses detailed information about OCIF proteins, including five species (*i.e.*, OCIF, OCIF2, OCIF3, OCIF4, and OCIF5), as well as a general method for obtaining analogs and variants of the disclosed species. *See Specification* at page 3-6.

As such, it is submitted that the specification provides sufficient direction and guidance such that one skilled in the art can practice the claimed invention, and withdrawal of this rejection is respectfully requested.

## II. Rejections Under 35 U.S.C. 112, Second Paragraph

Claims 1-5 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

More particularly, claim 1-5 stand rejected as indefinite due to the recitation of the phrase "at least one substance selected from the group . . . its derivatives". The newly added claims clarify the claimed compositions comprise both an OCIF protein and a polysaccharide. As such, withdrawal of this rejection is respectfully requested.

Claim 3 also stands rejected as indefinite due to the recitation of the term "and/or". While not agreeing that the term "and/or" is indefinite, the newly added claims do not include such a term. As such, withdrawal of this rejection is respectfully requested.

Finally, claim 5 stands rejected as indefinite because the claim allegedly lacks essential steps. Applicant's disagree that claim 5 is indefinite or that the Office's so called "essential step" is necessary. However, to facilitate prosecution, Applicants have withdrawn without prejudice or disclaimer claims 1-5, and as such, withdrawal of this rejection is respectfully requested.

**III. Rejections Under 35 U.S.C. § 102**

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(a) as allegedly being unpatentable over Goto *et al.* Claims 1 and 2 have been cancelled, thus rendering their rejection moot. This rejection will be discussed as it applies to new claims 6-25, and is respectfully traversed for at least the following reasons.

"It is axiomatic that for prior art to anticipate under § 102 it has to meet every element of the claimed invention." *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81 (Fed. Cir. 1986). Further, "an anticipation rejection requires a showing that each limitation of a claim must be found in a single reference, practice, or device." *In re Donohue*, 766 F.2d 531, 226 U.S.P.Q. 619 (Fed. Cir. 1985).

The presently amended claims are directed to compositions comprising a human OCIF protein and a polysaccharide in an amount effective for increasing the activity of the OCIF and methods of using said compositions. Whatever else the reference does teach, it fails to teach a combination of a human OCIF protein and a polysaccharide. Absent a teaching of each and every element of the claim, the reference cited by the Examiner does not anticipate the present claims. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 1, 3, and 4 stand rejected under 35 U.S.C. § 102(a) as allegedly being unpatentable over Goldenberg *et al.* While Applicants disagree, claims 1, 3 and 4 have been canceled, thus rendering their rejection moot. In light of this, this rejection will be discussed as it applies to new claims 6-25.

Again, "[i]t is axiomatic that for prior art to anticipate under § 102 it has to meet every element of the claimed invention." *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81 (Fed. Cir. 1986). Further, a reference "does not anticipate unless it is disclosed in such full, clear, and exact terms as to enable any person skilled in the art to which the invention relates to practice it." *See Seymour v Osborne*, 78 U.S. 516, 20 L.Ed. 33 (1871). As made clear in *In re Rusching*, 343 F.2d 965, 52 C.C.P.A. 1238 (CCPA 1965), one can not dissect and recombine components of a illustrative compound "to create hindsight anticipations with the guidance of an

applicant's disclosures, on the theory that such reconstructed disclosures describe specific compounds within the meaning of section 102." *Id* at 1250, 974.

In *Rusching*, the prior art disclosed a generic compound with multiple substituents, for which a long list of possible chemical groups for each substituent were provided. The court found that it would be improper to use the Applicant's own disclosure to pick from the long list of chemical groups for each individual substituent to arrive at Applicant's claimed compound(s).

The facts of *Rusching* are similar to the present case. In the present case, Goldenberg *et al.* provides a long list of biologically active agents (including all "recombinant or naturally occurring proteins, whether human or animal, useful for prophylactic, therapeutic or diagnostic application") as well as a long list of hydrophilic polymers, from which one is invited to choose one biologically active agent and one hydrophilic polymer and combine them with at least one precipitating agent. It is the Examiner's contention that since Goldenberg *et al's* long list of biologically active agents includes OCIF, the claimed compositions (comprising OCIF and a polysaccharide) are anticipated by Goldenberg *et al.* However, as noted in *Rusching* this would create an improper "hindsight" anticipation. Therefore, the claimed invention is not anticipated by Goldenberg *et al.*

In addition to the above, it is noted that in Goldenberg *et al.* "the biologically active agent is co-precipitated with the hydrophilic polymer" and "[a]s used herein, the term co-precipitation refers to the use of agent(s) for the precipitation of the biologically active agent together with the hydrophilic polymer so as to form a matrix of the precipitated polymer and agent". *See* page 6, lines 2-9, of Goldenberg *et al.* As shown by the Applicants, by administering a non-precipitated mixture of OCIF and a polysaccharide to a subject, the biological activity of OCIF (measured by calcium concentration in serum) is significantly enhanced by administration of the composition compared to when OCIF is administered alone (see examples 2 and 3 in the specification as filed). Furthermore, the concentration of OCIF in the serum is significantly increased compared to the concentration found when OCIF is administered alone (see examples 6 and 7 of the specification as filed). Goldenberg *et al.* does not disclose such an effect when using their compositions, which comprise a matrix of a precipitated biologically active agent and a polymer. Therefore, Goldenberg *et al.* does

not anticipate the claimed invention, in which a composition comprising non-precipitated OCIF and polysaccharide is provided.

Claims 1, 3, and 4 also stand rejected under 35 U.S.C. § 102(a) as allegedly being unpatentable over Nobuyyki *et al.* Again, claims 1, 3 and 4 were cancelled, and thus this rejection will be discussed as it applies to new claims 6-25. Whatever else this reference does teach, it fails to teach a combination of a human OCIF protein and a polysaccharide in an amount effective for increasing the activity of the OCIF. Absent a teaching of each and every element of the claim, the reference cited by the Examiner does not anticipate the present claims. Accordingly, withdrawal of this rejection is respectfully requested.

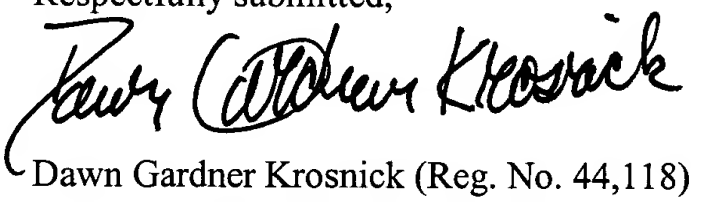
## Conclusion

In view of the foregoing amendments, Applicants believe that the application is in condition for allowance and solicit a Notice of Allowance indicating such at the earliest possible time.

Applicants do not believe that any fees are due other than those provided for in the accompanying papers. However, if any fees are required, then the Commissioner is authorized to deduct the fees from Arnold & Porter Deposit Account No. 50-2387 referencing matter 16991.008.

The Examiner is encouraged to contact the undersigned should any additional information be necessary.

Respectfully submitted,



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